

We claim:

1. A method of removing sulfur compounds from
5 hydrocarbon-containing gases, wherein copper-containing catalysts are used at from -50 to 150°C and a pressure of from 0.1 to 10 bar.
2. A method of removing sulfur compounds from
10 hydrocarbon-containing gases as claimed in claim 1, wherein temperatures of from 0 to 50°C and a pressure of from 0.8 to 1.5 bar are employed.
3. A method of removing sulfur compounds from
15 hydrocarbon-containing gases as claimed in claim 1, wherein the copper-containing catalysts comprise from 30 to 99.8% by weight of copper oxide and from 0.2 to 70% by weight of oxides of elements of groups IIB, IIIB, IVB, VIB, VIII, IIIA, and IVA of the Periodic Table of the Elements which are
20 solids up to at least 250°C.
4. A method of removing sulfur compounds from
hydrocarbon-containing gases as claimed in claim 1, wherein the copper-containing catalysts comprise from 30 to 99.8% by
25 weight of copper oxide and from 0.2 to 70% by weight of oxides of elements of groups IIB, IIIB, IVB, VIB, VIII, IIIA, and IVA of the Periodic Table of the Elements which are solids up to at least 250°C.
- 30 5. The use of a method as claimed in any of claims 1, 2, 3 and 4 for producing sulfur-free hydrocarbon-containing gases for the preparation of hydrogen.
6. The use of a method as claimed in any of claims 1, 2, 3 and 4
35 for producing sulfur-free hydrocarbon-containing gases for the preparation of hydrogen for operation of a fuel cell.
7. A copper-containing catalyst comprising from 30 to 99.8% by weight of copper oxide and from 0.2 to 70% by weight of
40 oxides of elements of groups IIB, IIIB, IVB, VIB, VIII, IIIA, and IVA of the Periodic Table of the Elements which are solids up to at least 250°C.
8. A copper-containing catalyst as claimed in claim 7 or 8 for
45 use in a fuel cell system.

9. The use of a copper-containing catalyst as claimed in claim 7 or 8 for removing sulfur compounds from hydrocarbon-containing gases.

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